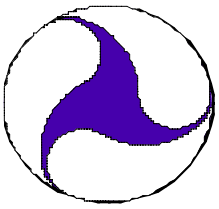
Module 6A – Procurement Strategies & Contracting Options → Instructors Guide

M6A.1: Cover Slide

Module 6A
Procurement Strategies and Contracting Options



M6A.2: Module Objectives (1 min)

Module Objectives

- Discuss available strategies for implementing ITS infrastructure
- Identify issues for consideration when selecting an approach

Delivery:

- Explain
  - "Bullet" points listed on this slide provide the framework for subsequent presentation/discussion within this module
  - Description/explanation for each "bullet" will follow shortly
  - Need to think "outside-the-box" when considering available procurement strategies and contracting options for ITS implementation
  - Need to identify more than just the "usual approach" → traditional engineer/contractor

Output:

- N/A

Notes:

- Do not "dawdle" on this slide → move on!!

M6A.3: Outline of Module **(2 min)**

Outline of Module

- Available strategies
- Review of selected characteristics
- Issues for selecting strategies

Delivery:

- Special Emphasis Point
  - This module is principally in lecture format to allow coverage of numerous alternatives
  - The Course Exercise will allow for more discussion in Module 6B
- Explain
  - "Bullet" points listed on this slide provide the framework for subsequent presentation/discussion within this module
  - Description/explanation for each "bullet" will follow shortly
  - Unfortunately, do not have enough time to look at all of the available strategies → therefore, we'll just try and highlight the "most" useful ones that you should know about and consider using

Output:

- N/A

Notes:

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M6A.4: Strategies for Consideration (1 min)

Strategies for Consideration

- Engineer/Contractor
  - Design/Bid/Build
- System Manager
- System Integrator
- Design/Build
- Design to Budget

Delivery:

- The next two (2) slides are "outline" slides which highlight subsequent information.
- Simply introduce the strategies and note that "there are options..."

Output:

- N/A

Notes:

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M6A.5: Strategies for Consideration (1 min)

Strategies for Consideration (cont.)

- Build, Own, Operate, Transfer (BOOT)
- Franchise/Lease
- Shared Resources
- Variations on a Theme
- Supplemental Transit Procurement Features

Delivery:

- This is the second of the "outline" slides which outline subjects to be covered
- Simply introduce the strategies and note that "there are options..."

Output:

- N/A

Notes:

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M6A.6 -- Engineer/Contractor Advantages (1 min)

Engineer/Contractor - Advantages

- Long history of use
- Well-defined roles
- Legal precedent for handling disputes
- End product well-defined at early stage
- Many contractors available in market
- Contractor manages subcontractors
- Well-suited to highway construction

Delivery:

- How to present this slide…
  - The first step for each of the alternatives is to present the attributes or characteristics
    - The attributes/characteristics are not included on slides but are in the instructor notes
    - Use the notes to provide an overview on the first slide of each where the alternative is shown, then go to the advantages and disadvantages
- Engineer/Contractor (or Design/Bid/Build) --> Attributes
  - *Engineer selected based on qualifications*
  - *Fee negotiated with engineer*
  - *Engineer prepares contract documents (plan set)*
  - *Consulting or staff engineers may be used*
  - *Plan set is revised by owner/agency*
  - *Project is advertised → inviting construction contractors to submit bids*
  - *Bid is awarded*
  - *Contractor builds project per bid documents*
  - *Engineer may inspect construction and interpret bid documents*
  - *Agency is responsible entity*
- Attributes (above) are for instructor reference only --> use to emphasize point(s) if necessary

- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.7 -- Engineer/Contractor Disadvantages (1 min)

Engineer/Contractor - Disadvantages

- Artificial dividing line between design and construction
- Not well-suited to software development work
  - Difficult to specify
  - Buyer may not know needs
- Prime contractor may lack experience in areas crucial to project success

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.8 -- Engineer/Contractor Disadvantages (cont.) (1 min)

Engineer/Contractor - Disadvantages (cont.)

- Contractor has financial incentive to find deficiencies in bid documents and "changed" site conditions to seek change orders
- Lack of continuity - shifting of fault/blame

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.9 -- Systems Manager Advantages (1 min)

System Manager - Advantages

- **Overall system design, software development, system integration, and testing controlled by a single entity**
- **Continuity and accountability = no shifting of fault/blame**
- **More flexibility to allow changes than traditional approach**

Delivery:

- See first note for slide M6A.6
- System Manager
  - *Selection based on qualifications*
  - *Negotiated fee agreement is generally used for system manager services*
  - *Is responsible entity*
  - *Does some design work*
  - *Supervises design work by others*
  - *Does software development, selected hardware procurement, integration, training, and overall quality control*
  - *Low bid process used to buy commodities and traditional construction services*
  - *Frequently used for technology-based projects*
- Attributes (above) are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.10 -- System Manager Advantages (cont.) (1 min)

System Manager - Advantages (cont.)

- Well-suited to ITS projects
- Relatively strong agency experience
- Relatively strong competition available
- Requires partnering

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.11 -- System Manager Disadvantages (1 min)

System Manager-Disadvantages

- Somewhat smaller number of firms in marketplace with requisite blend of skills
- Somewhat unfamiliar to local engineers/procurement officials
- Requires partnering and shared responsibilities

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.12 -- System Manager Disadvantages (cont.) (1 min)

System Manager- Disadvantages (cont.)

- Heavy reliance on successful performance of System Manager
- End product less well- defined than engineer/contractor approach, difficult to manage "expectancies"

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.13 -- System Integrator Advantages (1 min)

System Integrator-Advantages

- Very similar to System Manager
- Reduced agency responsibility
  - Fewer contracts
- May reduce cost escalation risk

Delivery:

- See first note for slide M6A.6
- System Integrator
  - *Very similar to System Manager*
  - *May directly bid work*
  - *May directly perform some construction tasks with own staff (key point)*
  - *May be bid as fixed price*
- Attributes (above) are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.14 -- System Integrator Disadvantages (1 min)

System Integrator-Disadvantages

- Very similar to System Manager
- Less well known by agencies
- Direct bidding by System Integrator may violate agency procurement process

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.15 -- Design/Build Advantages (1 min)

Design/Build-Advantages

- **Full transfer of responsibility to design/build team**
- **Rapid completion possible**
- **Streamlined procurement possible**

Delivery:

- See first note for slide M6A.6
- Design/Build
  - *Agency commissions concept plan(s)*
  - *Successful concept plan is completed to 15-30% design level before contractor is selected*
  - *Best value selection process*
  - *Single responsible entity for design and construction of project*
  - *Agency monitors design/build work*
  - *Commonly used for warehouse construction and defense procurements*
  - *Being used for I-15 reconstruction in Salt Lake City, Utah*
  - *Generally involves "partnering" requirements*
- Attributes (above) are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.16 -- Design/Build Advantages (cont.) **(1 min)**

Design/Build-Advantages (cont.)

- Engineer and construction work done cooperatively with a single entity to resolve problems
- Financial incentive to rapidly complete work
- May include warranty or operations and management

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.17 -- Design/Build Disadvantages (1 min)

Design/Build-Disadvantages

- Decisions must be made faster than agency may be accustomed to
- Aggressive approach required for agency quality control
- May meet resistance from local contractors

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.18 -- Design/Build Disadvantages (cont.) (1 min)

Design/Build-Disadvantages (cont.)

- May increase costs because of contractor risk (design not complete)
- May violate statutes (17 states)
- Requires significant agency commitment to quality control--staffing issue

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.19 -- Design to Budget Advantages (1 min)

Build to Budget -Advantages

- Similar to Design/Build
- Allows maximum flexibility to proposers to use their most cost-efficient designs
- Reduced risk based on previous developments/applications
- May allow added functionality for given budget

Delivery:

- See first note for slide M6A.6
- Design to Budget
  - *Uses functional requirements/desires instead of detailed design*
  - *Owner identifies budget available*
  - *Proposers develop design based on their best solution using existing elements where practical*
  - *Best value evaluation emphasizes enhanced functionality or lowered risk*
  - *Detailed design document (DDD) approval required*
  - *Has been used in toll projects*
- Attributes (above) are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.20 -- Design to Budget Disadvantages (1 min)

Build to Budget -Disadvantages

- Similar to Design/Build
- Very unusual practice for agencies
- Risk based on lack of detailed designs
- Detailed design document may prove contentious point and delay project

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.21 -- BOOT Advantages (1 min)

BOOT-Advantages

- Little expenditures of public money to deliver project
- Contractor has full responsibility for project design, construction, and operation

Delivery:

- See first note for slide M6A.6
- Build, Own, Operate, Transfer (BOOT)
  - *Long-term contracts with consortium of financial, engineering, and construction firms to finance, design, build, operate, and collect revenue from transportation projects*
  - *Well-suited to major revenue-generating projects (e.g., toll roads, bridges, permitting and revenue collection systems, traveler information, etc.)*
  - *Innovative project delivery and finance with little use of tax dollars*
  - *Annual or monthly payments may be required where revenue stream is not available*
  - *Common in Europe*
- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

M6A.22 -- BOOT Advantages (cont.) **(1 min)**

BOOT -Advantages (cont.)

- Operations and/or maintenance is often included
- Agency owns project at end of long-term contract
- Similar time to deliver as Design/Build

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.23 -- BOOT Disadvantages **(1 min)**

BOOT -Disadvantages

- Statutory authorization required, little experience in the U.S.
- May limit competition
- Pricing may preclude use of facilities by economically disadvantaged persons
- Interest costs may increase overall project costs

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.24 -- Franchise/Lease Advantages (1 min)

Franchise or Lease -Advantages

- No initial cost to agency
- No operations and management responsibility to agency
- Reduced implementation time possible
- Facilitates private investment and access to private facilities

Delivery:

- See first note for slide M6A.6
- Franchise/Lease
    - *Many features similar to BOOT*
    - *Requires evaluated selection process*
    - *Long-term financing commitment*
    - *Provider retains ownership*
    - *May generate income for agency*
- Attributes (above) are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.25 -- Franchise/Lease Disadvantages (1 min)

Franchise or Lease - Disadvantages

- Unusual in transportation sector
- Reduces agency control
- Difficult to apply to "non-profitable" elements of infrastructure
- Requires long-term commitment

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.26 -- Franchise/Lease Disadvantages (cont.) (1 min)

Franchise or Lease - Disadvantages (cont.)

- Appearance of competitive advantage or monopoly position
- Operator's goals may not reflect public goals

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.27 -- Shared Resources Advantages (1 min)

Shared Resources-Advantages

- Significant potential benefit at little or no cost to agency
- May generate income for agency
- May provide needed technical design and operations and management resources to agency at no cost
- Successful experiences and models are available

Delivery:

- See first note for slide M6A.6
- Shared Resources
  - *Basically a bartered or "quid pro quo" relationship*
  - *Many attributes similar to franchise/lease strategy*
  - *Most applications have been in communications or motorist services*
  - *Revenue generation to private party is generally indirect (i.e., not related to transportation)*
  - *Selection procurement process may be complex*
- Attributes (above) are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.28 -- Shared Resources Disadvantages (1 min)

Shared Resources-Disadvantages

- May require legislative action
- Complex, controversial selection process
- Uncertain outcome versus agency needs
- May complicate issue of maintenance and operations responsibility

Delivery:

- Attributes from previous slide are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.29 -- Variations on a Theme (1 min)

Variations on a Theme

- **Use- approved vendor lists (Salt Lake and Arizona DOT experience)**
- **Extension of "government furnished equipment" concept (California, New York 170 Model)**

Delivery:

- Variations on a Theme
  - *Use of approved vendors list(s) → Salt Lake City, Utah (UDOT) and Phoenix, Arizona (AzDOT) experiences*
  - *Extension of "government furnished equipment" concept → California, New York 170 Model*
  - *Acceptance test equipment to continued maintenance equipment → Los Angeles ATSAC Laboratory*
- Attributes (above) are for instructor reference only --> use to emphasize point(s) if necessary
- Instructor should add succinctly detailed personal experiences to illustrate points (as applicable)

Output:

- N/A

Notes:

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M6A.30 -- Let's Discuss Some Examples... (2 min)

Let's Discuss Some Examples

- Atlanta
- Maryland, Missouri NY Thruway
- Detroit
- Virginia Toll Project
- Salt Lake city
- Columbus
- California State Route 91
- San Juan, P.R.

Delivery:

- Atlanta --> System Integrator
- Maryland, Missouri, NY Thruway --> Shared Resources
- Detroit --> System Manager
- Virginia Toll Project --> BOOT
- Salt Lake City --> Design/Build and use of approved vendors list
- Columbus --> System Integrator
- CA State Route 91 --> Franchise/Lease

Output:

- N/A

Notes:

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Supplemental Transit Comments

- All procedures apply at some level
- Common use of 2-step process
  - Evaluated proposals
- Fixed price bidding

- Note that transit procurement may be very similar to other ITS but often use the following
- *Standard Methods*
  - *Sealed Bids (IFB)*
    - *Requires complete and adequate specifications*
    - *Two (2) or more responsible bidders willing and able to compete*
    - *Procurement lends itself to firm fixed-price contract*
    - *Selection to be based principally on price*
    - *No discussion needed with bidders*
  - *Competitive Proposals (RFP)*
    - *Complete and adequate specifications not available*
    - *Cost not necessarily the principle factor*
    - *Contract either fixed-price or cost reimbursable*
    - *Discussions or negotiations needed to address technical requirements*
    - *Opportunity available to revise proposals*
- *Alternative Method*
  - *Two-Step Process*
    - *Combines elements of IFB and RFP*
      - *Evaluation and discussion of technical proposals followed by submission of fixed price bids*
      - *Unpriced technical proposals in 1st phase*
      - *Firms found to be technically qualified submit sealed bids*

        - *Awards to lowest responsive responsible bidder*
    - *Allows agencies to obtain benefits of sealed bids even where adequate specifications are not available*
    - *Method used where*
        - *Specifications are not definite or complete*
        - *Definite evaluation criteria can be prepared*
        - *More than one qualified source is thought to be available*
        - *Sufficient time is available*
- *Approval without prejudice*

Output:

- N/A

Notes:

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M6A.32 -- Chicago Transit Authority (CTA) Experience (1 min)

Chicago Transit Authority Experience

- AVL/advanced communications system
  - 1500 on-board units plus infrastructure
  - Emergency communication
  - Computer assisted dispatching
  - Data messaging
  - Service management
  - Traffic signal priority
  - Real-time information

Delivery:

- This is an example of a two stage transit management system procurement
- Explain
  - That these are the pertinent features/functions of the systems which the CTA was procuring and installing
  - Highlight "key" points → not all of them

Output:

- N/A

Notes:

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M6A.33: Chicago Transit Authority (CTA) Experience (cont.) (1 min)

Chicago Transit Authority Experience (cont.)

- **Positive features**
  - **Satisfied with results**
    - **Products meeting their requirements**
  - **Provided ability to compare features of different technologies and compare alternative solutions**

Delivery:

- Explain
  - That these are the "positive" results of the selected procurement method
  - Highlight "key" points → not all of them

Output:

- N/A

Notes:

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M6A.34: Chicago Transit Authority (CTA) Experience (cont.) (1 min)

Chicago Transit Authority Experience (cont.)

- **Positive features (cont.)**
  - **Learned what various vendors were providing and combined approaches**
  - **Gained knowledge about the technology**

Delivery:

- Explain
  - That these are additional "positive" results of the procurement method selected
  - Highlight "key" points → not all of them

Output:

- N/A

Notes:

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M6A.35: Chicago Transit Authority (CTA) Experience (cont.) (1 min)

Chicago Transit Authority Experience (cont.)

- **Pitfalls/negatives**
  - **Critically review marketing and vendor promises**
  - **Undefined specifications lead to implied rather than explicit requirements**
    - **Creates need for renegotiation**
    - **Renegotiation creates delays**

Delivery:

- Explain
  - That these are the "negative" results of the selected procurement method
  - That agency procurement policies are not always flexible enough to deal with re-negotiations
  - Highlight "key" points → not all of them
- Instructor facilitates discussion of the overall Chicago transit example
- **ASK:**
  - "Do you have any examples that have raised similar issues?"

Output:

- N/A

Notes:

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M6A.36 -- Issues for Selecting a Strategy (2 min)

Issues for Selecting a Strategy

- Strategy "goal"
- Provide on-going operations and management
- Funding sources
- Integration requirements
- Legal constraints

Delivery:

- Explain
  - There are a number of issues to be considered when selecting a procurement strategy. The next two slides summarize selected key issues to be considered.
  - Strategy "Goal" → (What Am I Trying to Achieve)
    - *Defined in planning and design stages*
    - *Affects (e.g., timing, integration needs, budgeting, operating responsibilities, etc.)*
  - On-Going Operations Management
    - *Agency staff → training and documentation requirements*
    - *Contractor → training, when available, relationship to warranties*
    - *Builder "warranty" → performance and availability requirements*
    - *Leased → owner responsibilities*
  - Funding Sources
    - *May have limiting "strings"*
      - *Period of availability versus longer term commitments*
      - *Capital vs. operations vs. maintenance applications*
      - *Bidding restrictions*
      - *Agency vs. contract staff*

- *Public/private partnerships Shared resources*
    - *Creativity is "key" → more opportunities than you think*
    - *Example → Seattle Model Deployment Initiative*
- Integration Requirements
    - *Information sharing needs*
    - *Responsibility sharing needs*
    - *Agency-to-agency perspective*
    - *Regional perspective*
- Legal Constraints
    - *Certain contract types may be either mandated or prohibited by state law*

- Instructor facilitates discussion

Output:

- N/A

Notes:

- Do not read/list all of the attributes (above) → only highlight a few "key" points

M6A.37: Issues for Selecting a Strategy (cont.) (2 min)

Issues for Selecting a Strategy (cont.)

- Project/program relationship to others
- Completion date
- Available skills and resources
- Project risks
- Administrative burden

Delivery:

- Explain
  - Project/Program Relation to Others
    - *When needed where*
    - *Level of integration required*
    - *Coordination for continuing operations management*
    - *Part of a mitigation plan for other construction?*
  - Completion Date
    - *Time for "normal" bidding? → Olympics example*
    - *Aging of bid documents → changes in technology and availability of standards*
    - *Operations management staff availability and development training*
  - Available Skills and Resources
    - *Technical skills available → design, inspection, and operations management*
    - *Is there a continuing need for the resources?*
    - *Can I add "person-years" and develop skills?*
    - *Are there union or staffing/policy restrictions?*
  - Project Risks
    - *Technical risks*
      - *Leading edge vs. bleeding edge*
      - *Rate of obsolescence*

        - *Proprietary vs. "open" technology*
        - *Getting what you think you want (software functionality)*
        - *Lack of understanding of technology*
    - *Institutional Risks*
        - *Budget security, especially for long-term commitments*
        - *Multi-agency commitments*
        - *Changes in management support*
        - *Ability to recruit appropriate staff*
        - *Contracting delays or bureaucratic "interference"*
- Administrative Burden
    - *Ties to funding*
    - *Current practice bias → but this can be changed too*
    - *Some contract types are simpler to administer*
- Instructor facilitates discussion

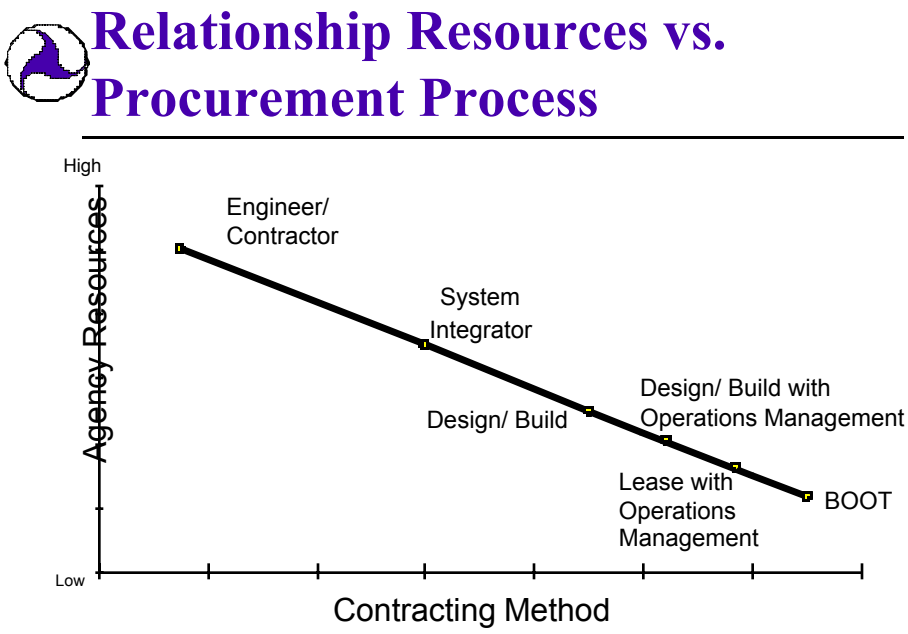
Output:

- N/A

Notes:

- Do <u>not</u> read/list <u>all</u> of the attributes (above) → only highlight a few "key" points

M6A.38 -- Relationship Resources vs. Procurement (Graphic) (2 min)



Delivery:

- Explain
  - That agency resources are necessary but to varying degrees dependent upon selected procurement/contracting approach
  - Highlight "key" procurement strategies → not all of them
  - That the graph is a simple way to make the point, but is not intended to be "accurate" for all circumstances
- **ASK:**
  - "Does this graph seem reasonable to you?"
  - "What additions/modifications would you suggest?"
- Instructor facilitates discussion

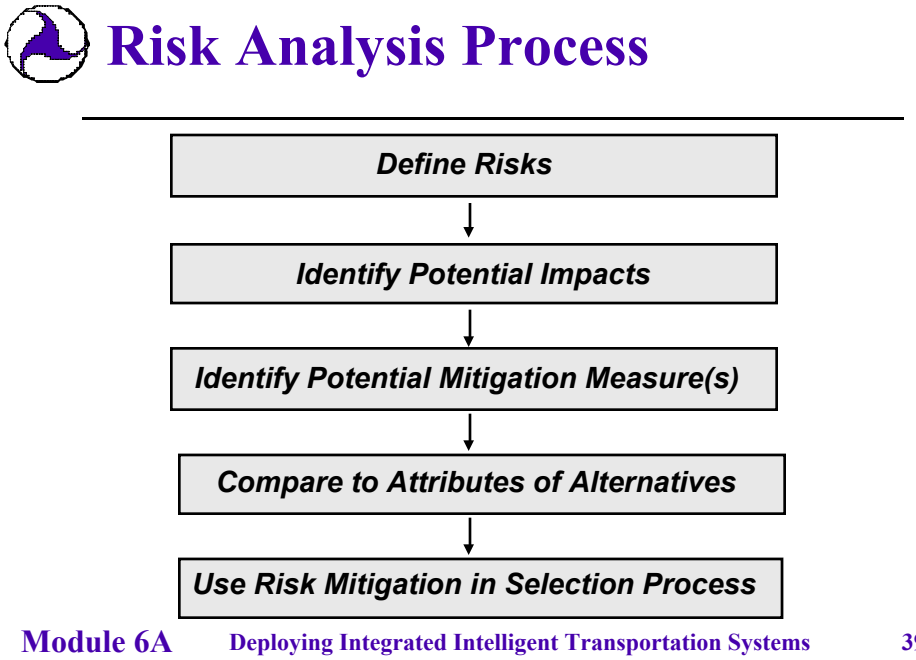
Output

- N/A

Notes:

-

M6A.39: Risk Analysis Process (Graphic) (2 min)



Delivery:

- Explain
  - That risk needs to be assessed. This is a representative "process" for agencies to consider when analyzing risk
  - Highlight "key" risks → not all of them
- **ASK:**
  - "Does this process seem reasonable to you?"
  - "What additions/modifications would you suggest?"
- Instructor facilitates discussion

Output

- N/A

Notes:

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M6A.40 -- Risk Mitigation Example (Chart) (2 min)

Risk Mitigation

Risk	☆ Mitigation	☆ Method
Project not finished when needed	Minimize pre-construction time	Design/Build reduces ◆Stage design ◆Advertising time ◆Build time

Delivery:

- Explain
  - That this is an example of how risk can be identified, then mitigated
  - Focus on "problem, solution, and how best to achieve solution"
  - "Personalize" solution but obtain various insights first
- **ASK:**
  - "Does this example seem reasonable to you?"
  - "What additions/modifications would you suggest?"
- Instructor facilitates discussion

Output

- N/A

Notes:

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M6A.41 -- I-15 Salt Lake City, UT Example (2 min)

I-15 Salt Lake (Risk Mitigation Example)

- **Process:** Design/Build needed to finish project before 2002 Olympics
- **Problem:** Poor geo-technical conditions in area would cause contractors to add $ to cover risk given bid using 30% level plans
- **Solution:** Keep 30% level plans but do 90% level geo-technical investigations

Delivery:

- Explain
  - This is an example of how an agency attempted to mitigate a real risk
  - Without mitigating the risk, it is likely that the contractor would have increased costs to cover the risk, or there would have been contentious issues during construction
- **ASK:**
  - "Does this example seem reasonable to you?"
  - "What additions/modifications would you suggest?"
- Instructor facilitates discussion

Output

- N/A

Notes:

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M6A.42: What is Best… (1 min)

What is Best?

- One size does not fit all
- Decisions must truly reflect local conditions
- Significant differences between alternatives make "doing-it-the-old-way" not always the best way

Delivery:

- Explain
  - There are a number of alternatives available
  - There are a number of issues to be considered
  - Review the points made on the slide
- Instructor facilitates discussion

Output:

- N/A

Notes:

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M6A.43: Therefore… **(1 min)**

Therefore...

- Keep the analysis relatively simple
- Start with desired outcomes
- Examine the raised questions
- Compare against attributes of alternatives
- Involve several persons (different perspectives)
- Involve procurement staff from day one

Delivery:

- Explain
  - That there is a "process" for helping you to "make-a-decision"
  - That involving the right people at the right time is "key"
  - *THE MAIN THING IS TO ASK AND ANSWER THE QUESTIONS SO THAT A REASONED DECISION IS REACHED!!*
  - That there are "available options" and "things-that-you-can-do" to select the "best" procurement strategy or contracting option for your agency and/or project
  - Don't fall into the trap → "that's-how-we-always-did-it"
  - Highlight "key" points → not all of them
- Instructor facilitates discussion

Output:

- N/A

Notes:

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